

Problematic Use of the Internet and Its Correlates with Psychological Well-Being among Undergraduate Dental Students

Sir,

Today, the Internet is ubiquitous in its presence. In the 1990s, it was largely restricted to home-based desktop computers connecting through landline modem connections with the high cost of usage. However, in the last decade, the dropping costs of mobile telephony and mobile internet connectivity have made it easily affordable and widespread. The Internet has made the life of people convenient by making it easy to communicate individually (e-mails) or to groups (social media chats); to navigate around the town or new places (using maps); to do online shopping to get things otherwise not available in your town, or to search and lookup for information to enhance knowledge. However, on the other hand, it has been noticed that there are potential risks involved with the use of the Internet such as falling prey to frauds and scams, loss of privacy and potential for being stalked, or simply excessive use to the exclusion of direct social interactions or the detriment of one's work or academics. This has led to the concept of internet addiction. Excessive use of the internet beyond what is essential for one's work or academic pursuits leading to following problematic outcomes are considered as the signs of the newly described disorder: excessive time spent, psychological distress, neglect of routine and expected duties, or excessive expenses incurred due to excessive internet usage. However, there is still controversy regarding the status of internet addiction as a psychiatric condition, with some authors suggesting that it shares clinical features in common with addictive disorders and hence can be considered a behavioral addiction.

However, it has been consistently shown that problematic and excessive usage of the Internet is associated with psychological distress and other problems over some time. Problematic internet use (PIU) is defined as an inability to have control over the use of the Internet, thereby resulting in excessive stress and ill impacts on the day-to-day activities of an individual.

The excessive internet usage worldwide among college students makes them vulnerable toward addiction and thereby leaving a detrimental effect on their psychological well-being. Hence, the authors were interested to assess the patterns of PIU and psychological well-being among undergraduate dental students.

A cross-sectional descriptive study was carried out among undergraduate dental students studying at a tertiary-level institute of dental sciences. The sample size was 144; either gender, aged 18 years and above, and those students who

had used/been using the Internet for at least 6 months were enrolled in the study using a convenience sampling technique. All the students who were available during the data collection period and who were willing to participate were recruited. The study was aimed to assess the problematic risky patterns of internet usage and its correlation with the psychological well-being.

An 18-item, Problematic and Risky Internet Use Screening Scale (PRIUSS) which has three major subdivisions such as social impairment, emotional impairment, and risky/impulsive internet use was used to collect the data along with demographic profile and patterns of internet use. The cutoff value of ≥ 25 was considered to be the problematic risky use of the Internet. The General Health Questionnaire (GHQ-12) was used to assess the psychological well-being. Each item is rated on a 4-point scale (less than usual, no more than usual, rather more than usual, or much more than usual) with the respective scoring of 0, 1, 2, and 3. The score ranged from 0 to 36, and a score > 12 was taken as evidence of psychological distress.

Ethical permission was obtained from the institutional ethics committee of the tertiary-level research hospital. An informative guide sheet was provided to the students at the end of data collection to help them to adopt a systematic and healthy approach for using the Internet.

Out of 144 participants, 45 (31.2%) students were male and 99 (68.8%) were female; 80 (55.6%) were in the age group of 18–19 years and 60 (41.6%) in 20–22 years. Further results revealed that 57 (39.6%) students stayed in the hostel and 87 (60.4%) were day scholars.

Analysis of patterns of internet use suggested that 37 (25.7%) were using the Internet for the past 6–11 months, 34 (23.6%) for 12–24 months, 26 (18.1%) for 25–36 months, and majority (47 [32.6%]) were using for > 3 years. The study results demonstrated that 114 (49.2%) participants were using the Internet for web search, 50 (34.7%) for E-mail, 51 (35.45%) for Facebook, 44 (30.6%) for games, 72 (50%) for chatting, and for other purposes such as movie, online books, shopping, Twitter, WhatsApp, LinkedIn, Skype, and YouTube.

Based on the score on problematic risky patterns of internet use, 32 (22.2%) students were categorized as “at-risk” groups as defined by the score of ≥ 25 . The psychological well-being that was assessed by the GHQ-12 implicated that 45 (31.2%) had the evidence of having psychological distress as defined by the score of > 12 .

Pearson's correlation coefficient test was used to identify the relationship between problematic risky patterns of internet use and psychological well-being. The results are shown in Table 1. It was found that the problematic risky internet use was positively correlated with the psychological well-being, and it was statistically significant ($P < 0.001$).

Further, the Chi-square test was used to assess the association between problematic use of the Internet and psychological well-being, and the results of the same are shown in Table 2. A statistically significant association ($P < 0.001$) was found between PIU and psychological well-being.

The comparison of problematic risky patterns of internet use and psychological well-being with sociodemographic characteristics was done by using independent *t*-test and one-way ANOVA. The results showed that there was a significant difference in the problematic risky internet use among gender, age, years of study, years of use, and hours of internet use, and it was statistically significant ($P < 0.05$). Males were at high risk for PIU; those in 20–22 years of age group, students who were using the Internet for 25–36 months, and those who had spent 5–8 h/day on the Internet were found to be at risk for PIU.

Table 1: Correlation between problematic patterns of internet users based on the Problematic and Risky Internet Use Screening Scale score and psychological well-being based on the General Health Questionnaire-12 scale score ($n=144$)

Pearson's correlation	PRIUSS	GHQ-12
PRIUSS		
Correlation coefficient	1	0.399**
Significance (two tailed)	-	0.000
GHQ-12		
Correlation coefficient	0.399**	1
Significance (two tailed)	0.000	-

**Correlation is significant at 0.01 level (two tailed). PRIUSS: Problematic and Risky Internet Use Screening Scale, GHQ-12: General Health Questionnaire-12 scale

The correlation between various subdimensions of problematic risky internet use and psychological well-being was assessed by the Pearson's correlation method. The results showed that there is a significant positive correlation between various dimensions of problematic risky internet use and psychological well-being. It also implies that individuals with social impairment (online social interaction), emotional impairment (emotionally attached to the Internet), and risky/impulsive users of the Internet (heavy users of the Internet) were likely to have impaired psychological well-being.

Previous studies that had assessed the relationship between PIU and psychological well-being indicated that a significant correlation exists between excessive use of the Internet, neglecting social life, and various health-related problems that negatively affect the psychological well-being of an individual. A recent study among medical students reported that depressive symptoms were the most prevalent mental health problems as a result of both PIU and poor sleep quality.^[1] Another study revealed a similar finding among medical students regarding smartphone addiction. The authors found a significant association of this addiction with poor sleep quality and higher perceived stress.^[2]

Concerning problematic risky use of the Internet and psychological well-being, the findings suggested that 32 (22.2%) were at risk for problematic risky use of the Internet. Further analysis found that 45 (31.3%) students had impaired psychological well-being. The finding is consistent with other study that reported 25.8%.^[3]

Singh *et al.* investigated internet addiction among college-going students. The authors concluded that internet addiction was positively related to depression, anxiety, and insomnia and negatively related to social connectedness and self-esteem. Studies suggest that the prevalence of PIU and smartphone use in young people has increased over the last decade due to the influence of social networks.

Findings of the present study suggest that a significant positive correlation was found between Problematic Risky Internet

Table 2: Association between the Problematic and Risky Internet Use Screening Scale score and General Health Questionnaire-12 scale score ($n=144$)

	GHQ		Total
	No psychological distress (<12)	The presence of psychological distress (>12)	
Risk of PIU			
No risk (>25)			
Count	87	25	112
Percentage within the risk of PIU	77.7	22.3	100
At risk (<25)			
Count	12	20	32
Percentage within the risk of PIU	37.5	62.5	100
Total			
Count	99	45	144
Percentage within the risk of PIU	68.8	31.2	100

PIU: Problematic internet use, GHQ: General Health Questionnaire

Use (PRIUSS) score and GHQ-12 score ($P < 0.001$). The linear relationship between PRIUSS and GHQ-12 scores indicated that individuals “at risk” for PIU were likely to have low psychological well-being. The findings are supported by Balhara *et al.*,^[4] who reviewed a total of 38 studies that included the evidence of internet addiction among university students.

Furthermore, the test of association between PRIUSS and GHQ-12 scores concluded that problematic risky patterns of using the Internet are related to the poor psychological well-being ($P < 0.001$), and both the variables have an impact on each other. Another study by Sayed *et al.*^[5] demonstrated that individuals who were using the Internet excessively were having some psychological problems such as behavioral problems, interpersonal problems, and work-related problems in their daily life. The present study also suggested that problematic patterns of internet use are positively correlated with similar kinds of problems.

The single-center study design, nonprobability sampling, and small sample size were the limitations of the study.

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Conflicts of interest

There are no conflicts of interest.

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